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Weinraub

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(54) **GUIDANCE DEVICE FOR THE SENSORY IMPAIRED**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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(57)

ABSTRACT

Sensor data is obtained regarding an environment around a guidance device. A model of the environment is generated based on the data. The model is mapped at least to an input/output touch surface of the guidance device. Tactile output is provided to a user of the guidance device via the input/output touch surface based at least on the mapping. Other output based on the model may also be provided. The guidance device may include a variety of different components such as sensors that obtain data regarding the environment, input/output mechanisms for receiving input from and/or providing input to the user, processing units and/or other components for generating the model and/or mapping the model to various input/output mechanisms, and so on. Additionally, the guidance device may cooperate and/or communicate with a variety of different electronic devices that have one or more such components in order to perform such functions.

(65) **Prior Publication Data**

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Related U.S. Application Data

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G06F 3/01 (2006.01)
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CPC **G06F 3/016** (2013.01); **G01C 21/20** (2013.01); **G06F 3/167** (2013.01); **G06K 9/00671** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

20 Claims, 11 Drawing Sheets

